

Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-70 are pending in the application, with 1, 7, 8, 10, 16, 22, 23, 26, 39, and 55 being the independent claims. New claims 33-70 are sought to be added. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicant respectfully requests that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Objection to the Information Disclosure Statement

On page 2, the Examiner asserted that Information Disclosure Statement (IDS) filed on January 9, 2006 failed to comply with 37 C.F.R. 1.98(a)(2), and did not consider foreign patent document EP 1024618 A2 because applicant did not provide a English copy of the document.

Applicants respectfully assert that the January 6, 2006 IDS complies with 37 C.F.R. 1.98. On January 9, 2006, Applicant submitted the IDS and foreign patent document EP 1024618 A2 accompanied by an English language foreign search report citing EP 1024618 A2. Applicant received a stamped postcard from the USPTO on that date acknowledging receipt of the documents. An English language version of EP 1024618 is not readily available to the undersigned.

As a courtesy, the Applicants include a copy of the January 9 IDS in an Appendix.

Objection to the Claims

On page 4, the Examiner objected to claims 16-18 for reciting the phrase "adapted to". Applicants assert that deleting the phrase "adapted to" will affect claim scope and impact the protection to which the Applicants are entitled. Applicants further assert claims 16-18 define the invention as required by 35 U.S.C. § 112. Therefore, Applicants respectfully request Examiner reconsider and withdraw the objections to the claims.

Objection to the Abstract

On page three, the Examiner objected to the abstract. Applicants have amended the abstract to define the acronyms in accordance with the Examiner's objection. Support for the amendment may be found, inter alia, in paragraph [0028] of the application.

Objections to the Drawings

On page 2, the Examiner objected to the drawings because FIGs. 1, 2, 4A and 4C do not have a descriptive legend of the acronyms CMTS, HFC, CM, SDRAM, and NCO. Although suitable legends "may be required by the Examiner where necessary for understanding of the drawing" (37 C.F.R. § 1.84), Applicants respectfully disagree with the Examiner's position with regard to the particular legends referred to in the action.

The acronyms are shown as labels for various blocks and these labels are described in the specification as amended. The specification description aids the reader

in identifying the functions of all blocks labeled with the acronyms. All blocks of the drawings have reference numerals and the reader can easily correlate all blocks with text description in the specification as follows:

CMTS (104): "The cable headend 102 includes at least one cable modem termination system (CMTS) 104." (paragraph [0027]).

HFC Network (106): ". . . via a communications network 106, which, by way of example, may comprise a hybrid fiber coaxial (HFC) cable network.." (paragraph [0027]).

CM (108a-n): ". . . and a plurality of cable modems (CM) 108a-108n" (paragraph [0027]).

Downstream SDRAM (230): "In an embodiment, a downstream synchronous dynamic random access memory (SDRAM) 230 is used" (paragraph [0037]).

First (Second) Upstream SDRAM (260a-b): ". . . first and second upstream SDRAMs 260 . . ." (paragraph [0039]); SDRAM is defined in prior paragraph [0037].

NCO (430): ". . . and a numerically controlled oscillator (NCO) 430." (paragraph [0059]).

Thus, the reader should have no difficulty in understanding the functions of the various blocks of the drawings. Applicant respectfully requests the objections to the drawings be reconsidered and withdrawn.

Furthermore, the drawings are consistent with numerous patents that have issued by the USPTO. However, if, upon further consideration, the Examiner holds the view that enhanced labels in the drawings should be provided, Applicant will, of course, submit replacement sheets of drawings with enhanced labels.

Rejections under 35 U.S.C. § 102

On page 5, the Examiner has rejected claims 1-3, 16-18, and 25 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0095963 to Rakib ("Rakib Application"). Applicants respectfully traverse.

In rejecting independent claim 1, the Examiner contended that the Rakib Application disclosed all elements of claim 1, citing FIG. 2; paragraph 38, lines 4-15; paragraph 47, lines 8-22. Upon review of these referenced lines and the Rakib Application in its entirety, Applicant respectfully disagree with the Examiner's position.

Independent claim 1 was amended to standardize terminology. As amended, claim 1 requires:

...
upon a loss of reception of the first signal, maintaining the symbol clock;
...
determining a symbol clock offset between the first signal and the second signal using the maintained symbol clock; and
adjusting the maintained symbol clock based on the symbol clock offset to generate an adjusted symbol clock.

In contrast, the Rakib Application discloses having symbol clocks (Rakhib Application, paragraphs [0022], [0038]), and "each transmitter having its own *timestamp counter* which has a fixed offset from the *timestamp counters*." (Rakib Application, paragraph [0047], emphasis added). Nowhere does the Rakib Application teach determining a *symbol clock* offset, maintaining a symbol clock upon termination of reception of a first signal, or adjusting the maintained symbol clock based on the symbol clock offset.

For at least these reasons, independent claim 1 is patentable over the cited reference. Reconsideration and allowance of claim 1 is respectfully requested. Claims 2 and 3 depend from claim 1. For at least the above reasons, and further in view of their own features, dependent claims 2 and 3 are patentable over the cited reference. Reconsideration and withdrawal of the rejections are therefore respectfully requested.

Independent claim 16 is patentable for reasons similar to those present above in regard to claim 1. Further claims 17, 18, and 25 depend from claim 16. For at least the above reasons, and further in view of their own features, dependent claims 17, 18, and 25 are patentable over the cited reference. Reconsideration and withdrawal of the rejections are therefore respectfully requested.

Rejections under 35 U.S.C. § 103

On page 6, the Examiner rejected claims 4-6, 9, 10, 19-21, 24, 26, and 32 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0095963 ("Rakib Application") in view of U.S. Patent No. 6, 356, 555 ("Rakib Patent"). Applicants respectfully traverse.

Dependent claims 4-6 and 9 depend from independent claim 1 and dependent claims 19-21 and 24 depend from independent claim 16. As discussed above, the Rakib Application does not disclose determining symbol clock offsets, maintaining a symbol clock upon termination of reception of the first signal, or adjusting the maintained symbol clock based on the symbol clock offset. The disclosure of the Rakib Patent adds nothing to the disclosure of the Rakib Application to overcome the deficiencies of the latter with respect to independent claims 1 and 16. Thus, for at least the reasons above,

and further in view of their own features, dependent claims 4-6, 9, 19-21, and 24 are patentable over the Rakib Application in view of the Rakib Patent. Reconsideration and withdrawal of the rejections are therefore respectfully requested.

The Examiner rejected claim 10 citing the Rakib Application and the Rakib Patent, column 46, lines 55-65 and column 21, lines 44-55 of the Rakib Patent. (Office Action, page 8). Upon review of these referenced lines and the references in their entirety, Applicant respectfully disagree with the Examiner's position.

Independent claim 10 was amended to standardize terminology. As amended, claim 10 includes the elements of:

...
generating a symbol clock based on timing information included in the signal;
storing information associated with the timing information to provide delayed timing information; and
upon a loss of reception of the signal, accessing the delayed timing information *to maintain the symbol clock*.

In contrast, the Rakib patent discloses filling up pages of memory as "the data from new timeslots is received" (Rakib Patent, col. 46, lines 55-65) and a "trial and error" alignment process of "adjusting a delay from the time of receipt of the barker code to the time of transmission of the same barker code . . . until the delay is properly adjusted." (Rakib Patent, col. 21, lines 44-55). Nowhere does the Rakib Patent disclose storing information associated with timing information on which a symbol clock was based to provide delayed timing information which is accessed to maintain a symbol clock. Further, Applicant agrees with Examiner that the Rakib Application does not disclose these elements. (Office Action page 8). Thus, for at least the reasons discussed above, independent claim 10 is patentable over the Rakib Application in view of the

Rakib Patent. Reconsideration and withdrawal of the rejection is therefore respectfully requested.

Independent claim 26 is patentable for reasons similar to those presented above in regard to independent claim 10. Further, claim 32 depends from claim 26. For at least the above reasons, and further in view of its own features, claim 32 is patentable over the cited references. Reconsideration and withdrawal of the rejections are therefore respectfully requested.

On page 9, the Examiner rejected claims 11-15 and 27-31 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0095963 ("Rakib Application") in view of U.S. Patent No. 6, 356, 555 ("Rakib Patent") and further in view of U.S. Patent No. 6,243,369 ("Grimwood et al."), citing column 42, lines 3-5; column 49, lines 33-40; column 50, lines 13-21, 59-67; column 51, lines 8-31 of Grimwood et al. Applicants respectfully traverse.

Dependent claims 11-15 depend from independent claim 10 and dependent claims 27-31 depend from independent claim 26. As discussed above, the Rakib Application and the Rakib Patent do not disclose storing information associated with timing information on which a symbol clock was based, to provide delayed timing information which is accessed to maintain a symbol clock.

Similarly, Grimwood et al. does not disclose these elements. In contrast, Grimwood et al. discloses, for example, a trial and error *timestamp* offset calculation methodology for frame and superframe boundary alignment and a buffer holding the Reed Solomon encoded blocks of upstream data until minislots are awarded, (col. 42,

lines 3-5); fine-tuning ranging during RU training by comparing training data to neighboring codes to minimize intersymbol interference (ISI) (col. 49, lines 33-40); RF demodulation using a local carrier reference signal generated from a recovered downstream clock or a master clock synchronized by a ranging process (col. 50, lines 13-31); a phase locked loop clock recovery methodology augmented by a clock steering signal "generated from downstream barker codes detected by [a] SCDMA demodulator" (col 7, lines 45-46; col. 50, lines 59-67); and ranging using Barker codes (col. 51, lines 8-31).

Thus Grimwood adds nothing to the disclosures of the Rakib Application and Rakib Patent to overcome the deficiencies of the latter with respect to independent claims 10 and 26. Therefore, for at least the reasons above, and further in view of their own features, dependent claims 11-15 and 27-31 are patentable over the Rakib Application in view of the Rakib Patent and further in view of Grimwood et al. Reconsideration and withdrawal of the rejections are therefore respectfully requested.

Allowable Subject Matter

Applicants note with appreciation the Examiner's indication on page 11 of allowability of claims 7, 8, 22, and 23 if put into independent form. Applicants have amended claims 7, 8, 22, and 23 into independent form, incorporating all the limitations of the base claim and any intervening claims.

Other Matters

The Specification has been amended to correct a typographical error and to define an acronym. Support for the acronym definition may be found in paragraph [0004].

Examiner alleges on page 2 that the information disclosure sheet (IDS) filed on January 9, 2006 fails to comply with 37 C.F.R. 1.98(a)(2) requiring a legible copy of each cited foreign patent document. Examiner further notes that foreign patent document EP 1024618 A2 has not been considered because Applicant failed to provide an English copy of the document.

Applicant submitted a form PTO/SB/08A listing EP 1024618 A2 and the untranslated document in accordance with 37 C.F.R. 1.98. Under 37 C.F.R. 1.98(a)(3)(ii), Applicant is not required to submit an English translation. A copy of the English language European Search Report dated December 8, 2005 in counterpart foreign application EP04008793 was submitted in lieu of a concise explanation in accordance with MPEP 609.04(b). Applicant received a stamped postcard from the USPTO acknowledging receipt thereof.

In the interest of expediting prosecution, Applicants resubmit a copy of EP 1024618 A2 and the English language European Search Report dated December 8, 2005 in counterpart foreign application EP04008793, appended to this Amendment and Reply.

Applicants have added claims 33-70. These claims add no new matter. Support for the new claims may be found throughout the specification. New claims 33-35 and 37-38 depend from claim 1 and claim 16 respectively, and thus are patentable for at least the reasons above and further in view of their own features.

Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicant believes that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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